2 EXISTING CONDITIONS

2.1 General Description of Site

The Holly Street Landfill site is a 13-acre historic municipal solid waste landfill located in the City's Old Town district. The general location and layout of the site is shown on Figures 2-1 and 2-2. Municipal solid waste is located on both sides of Whatcom Creek, with the landfill divided into a northern unit and a southern unit. Both the northern landfill unit on the northwest bank, and the southern landfill unit encompassing Maritime Heritage Park and the southeast bank of Whatcom Creek, are listed and ranked by Ecology as contaminated sites subject to the investigation and cleanup requirements of the Washington State Model Toxics Control Act (MTCA). Since these sites are essentially one site bisected by Whatcom Creek, Ecology has combined the sites into one site known as the Holly Street Landfill.

The current ground surface of the landfill consists predominantly of silty sand and gravel of variable thickness, overlain in many areas by asphalt (predominantly over the northern landfill unit) and landscaping (predominantly over the southern landfill unit). Cover material thickness ranges from approximately 1 to 20 feet, and is generally thicker in the southeast portion of the site (Maritime Heritage Park), where it ranges from about 3 to 20 feet thick.

2.2 Site Use and Landfilling History

In the late 1800s, the Holly Street Landfill site was part of the original Whatcom Creek estuary and mudflat. Around 1905, private property owners began filling portions of the site with dredge spoils and other materials to increase usable upland areas. From 1937 to 1953, and possibly continuing to as late as 1959, municipal waste was disposed on private tidelands within the former Whatcom Creek Estuary. Wastes disposed at the site included debris and scrap materials, consistent with landfill disposal practices of the time.

With the acquisition of the Sash & Door property, the City currently owns 8.3 acres of the 13-acre landfill site, including all landfill properties located along the Whatcom Creek shoreline. Various private property owners own land around the upland/inland perimeter of the landfill.

Insert Figure 2-1 here

Insert Figure 2-2 here

Most of the wastes disposed at the site are generally described in the historical documents as inorganic materials, largely devoid of putrescible wastes or flammable items, which were disposed at other locations. Specific descriptions of waste materials disposed at the Holly Street Landfill site have included glass, concrete, household debris, metal scrap, soil, coal slag, ashes, and woody debris consistent with landfill disposal practices of the time. Few of the waste materials are currently exposed at the surface, but are largely covered by soil fills, gravel, buildings, and asphalt.

2.3 Nature and Extent of Site Contamination

A Remedial Investigation/Feasibility Study (RI/FS) was prepared by Anchor and Aspect (2003) for this site, including collection of data needed to evaluate the nature and extent of contamination. Soil, sediment, surface water, and groundwater conditions were characterized during the RI/FS. As set forth in Ecology's Cleanup Action Plan (CAP) for the site (included as Exhibit A to the Consent Decree), based on the findings of the RI/FS, controls are needed at the site to continue to prevent future human and environmental exposure to buried (subsurface) refuse and associated soil contaminants. Moreover, although contaminants have not been detected in groundwater at the site at levels of potential concern, metals such as copper and zinc present in landfill refuse are mobilized by tidal processes affecting the shoreline landfill zone. These processes result in seepage to Whatcom Creek along a localized reach of the northern landfill unit shoreline that poses a potential risk to sensitive aquatic species in this area.

2.4 Stability of Existing Landfill Side Slopes

The existing landfill side slopes are marginally stable along the shoreline of Whatcom Creek. Evidence of ongoing sloughing and shoreline erosion can be found in several areas behind existing wooden bulkheads, where loss of ground has resulted in gaps between the bulkhead and the shoreline. Stability of the landfill slopes could be a future source control concern at the site, as the bulkhead continues to deteriorate and the wood piles supporting the bulkhead provide decreasing support for the slope.

Stability analyses (presented below and detailed in Appendix D) indicate that the existing slope in many areas of the site has a factor of safety against sliding on the order of 1.0, which indicates a marginal to low level of stability. This is particularly true where the slope has

been oversteepened and the bulkhead is deteriorating. The analysis suggests that if the existing slopes are not further supported or otherwise stabilized, continued sloughing may occur, particularly along portions of the Maritime Heritage Park shoreline. If the site remains in its existing condition, additional loss of ground may occur along the slope face in the event of an earthquake, possibly accompanied by exposure of refuse. Accordingly, source controls to stabilize landfill side slopes are incorporated into the Project design.